DOCUMENT RESUME

ED 319 586 SE 050 566

AUTHOR Mullen, Betty L.
TITLE Implementation of Parent Involvement in Math Program in Creve Coeur Schools, Creve Coeur, Illinois.
PUB DATE 8 Mar 89
NOTE 15p.
PUB TYPE Reports - Descriptive (141) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Elementary Education; *Elementary School Mathematics; *Homework; *Mathematical Enrichment; Mathematics Education; Mathematics Instruction; Mathematics Materials; *Parent Participation; Parent School Relationship; Program Descriptions

ABSTRACT

This paper reports on a pilot program called "TIPS" which was designed to promote parent involvement in mathematics lessons for grades 1-6 in Creve Coeur Elementary District 76, located in a small town on the outskirts of Peoria, Illinois. The program was begun in the first year of districtwide adoption of a new math textbook which provided parent involvement activities but no parent training component. The TIPS program added provisions for skill training for the parents and for parent response; district math curriculum guides were used as were student expectation reports to parents developed the previous year. Planning committee members then collected examples of key skills for conversion to the TIPS math adapted format, and lessons were written for each identified skill using materials provided by staff. Over the two-year timeline of this program, conducted between 1986 and 1988 160 students were involved and lessons were sent home on the average of every two weeks during the school year. The following sections are included in this report: (1) "District Characteristics"; (2) "Committee Expectations for Administration"; (3) "Committee Goals for the TIPS Program"; (4) "Committee Expectations for Teachers"; (5) "Timeline of Study"; (6) "The Study Group"; (7) "Format of Lessons"; (8) "Subject Matter of Lessons"; (9) "What Data Shows"; and (10) "Coordinator Observations." (CW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED319586

IMPLEMENTATION OF PARENT INVOLVEMENT IN MATH PROGRAM IN CREVE COEUR SCHOOLS, CREVE COEUR, ILLINOIS

Betty L. Mullen
March 8, 1989

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Betty Mullen

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SE 051 564

BEST COPY AVAILABLE

ACKNOWLEDGMENTS

The TIPS math program in Creve Coeur Public Schools would never have happened if the local school board and Superintendent Phillip W. Hardy did not highly value school-home-community communication. Because they realized that improvement was needed in school-home communication, they allotted personnel, time, money, and other support. They added confidence and trust enough to allow the parent activity coordinator to develop and implement programs toward that end. TIPS was one of those programs.

Classroom teachers Diane Hall, Bev O'Connor, Kay Newton, Jackie Goode, Misty Atkins, and Deb Blumthal worked efficiently and diligently to successfully meet the goals set for them. Principals Don Bockler and Ted Bradshaw, Ed.D., energetically supported the project. Professor Barbara Pendleton, Ph.D., Bradley University, consulted with the coordinator while lesson development was in progress. The person who really made the difference between success and disaster was classroom aide, Brenda Miller.

Because the beginning team was and remains to be sold on parent involvement in learning, the TIPS program has expanded to every classroom in grades 1-4 in the district. It is improving because members of the team have assumed roles of leadership to see that it does.

TABLE OF CONTENTS

	Page
District Characteristics	1
Committee Expectations for Administration	2
Committee Goals for TIPS Program	2
Committee Expectations for Teachers	3
Timeline of Study	4
The Study Group	5
Format of Lessons	6
Subject Matter of Lessons	7,8,9
What the Data Shows	10
Coordinator Observations	11

DISTRICT CHARACTERISTICS

Creve Coeur Elementary District 76 is located in a village of 6,850 inhabitants located on the outskirts of Peoria, Illinois. The district is populated and governed largely by blue collar workers.

During the period of the TIPS pilot study, the district had an enrollment of 802 students in grades K - 8. In data reported by the Illinois State Board of Education, 41.6% of the entire student body was at poverty level compared to 28.9% of all Illinois students.

During the 1988-89 school year, District 76 employed 44 certified teachers, including those teaching Chapter I classes, special education classes, speech therapy, and media classes. The district student-teacher ratio was 21.3/1 compared to the Illinois state average of 20.5/1. The average teaching experience level in the district was 13.9 years compared to a statewide experience level of 15.3 years.

COMMITTEE EXPECTATIONS FOR ADMINISTRATION

1. Philosophical and monetary support.

2. Leadership adequate to maintain the respect of the staff members who piloted the study and those who observed.

3. Professional and technical resources needed to write the lessons for the key concepts identified by the staff.

4. Clerical time to prepare lessons for distribution to maintain home-school communication by letter or publication, and to keep records.

COMMITTEE GOALS FOR TIPS PROGRAM

1. Parental involvement in math homework on teacher identified key concepts.

2. Parental response to teachers concerning student status on key concepts.

3. Parental knowledge of district expectations in math by grade level.

4. Improved mutual regard between parents and teachers for mutual efforts with students.

COMMITTEE EXPECTATIONS FOR TEACHERS

1. Identify key concepts for the grade level she represented.

2. Proof lessons prepared by the project coordinator until each lesson was acceptable to each piloting teacher.

3. Assist in parent education about the pilot study.

4. Indicate the date the lesson was sent home and the key concept of the lesson on a student checklist.

5. Check off student names to indicate which students returned parent response notes.

6. Forward all parent response sheets to the project coordinator so that those needing further action by the school could be noted.

7. Provide any action required as a result of the home-school communication.

8. Assist in project evaluation.

TIMELINE OF STUDY

The pilot committee adopted the following timeline:

March 15, 1986	Initial meeting of committee.
May 15, 1986	Key objectives chosen and lesson content to coordinator.
September 1, 1986	All lessons in format and returned to teachers for approval. Format check of cross-section of parents to check for clarity.
September 14, 1986	Letter to parents explaining the pilot program.
September 21 & 24, 1986	Parent training at parent night (usually 80% parent turnout). Video of training made for later critique and for later use by parents. Example lessons distributed. Questions answered by coordinator in large group meeting and by individual teachers in each piloting classroom on the same evening.
October 16, 1986	Parent-teacher conferences held. Individual teachers discussed sample lessons individually with parents.
October 19, 1987 to May 15, 1988	Implementation of pilot program into one section of each grade, one through six.
May 24, 1988	Evaluation questionnaire sent to parents and teachers.

THE STUDY GROUP

The study group population was 160 students representing 19.95% of the entire student enrollment of 802. One teacher from each grade level 1-6 was invited by the district superintendent and the project coordinator to serve on the TIPS piloting committee. Initial committee assignment was voluntary. All teachers who were asked accepted the assignment. Average teaching experience level for the committee was 10.7 years. Actual experience ranged from 1 to 18 years.

The piloting teachers agreed that lessons would be sent home only after most of the students in the class could be reasonably expected to understand both the concept and the process of the identified key concept of a lesson. Parents were not expected to teach the lessons.

Lessons went home on the average of every two weeks during the pilot period. More lessons were sent by lower grade teachers than by those in grades 4, 5 and 6 reflecting the fact that district curriculum grades listed more expectations at lower grades than at intermediate grades.

FORMAT OF LESSONS

Creve Coeur Public Schools began the TIPS math involvement program in the first year of use with a new district-wide math textbook adoption. In-service training by that text publisher had been provided prior to the choice of the TIPS program format. The text of choice provided parent involvement activities. While activities provided by the publisher were attractive and informative, there was no provision for skill demonstration to the parent or for parent response. There was no parent training component.

The TIPS pilot committee used five elements of the Hopkins model:

Look at this - Explanation of process

Try these together - Sample problems

Check this - Answers to sample problems

Student Assignment - 15 or fewer problems

Parent Response

In addition to the five above components, a "Remember" section was sometimes added to explain terminology. This small reminder was always in the upper left corner of "Look at This".

SUBJECT MATTER OF LESSONS

All committee members chose key concepts from the grade level represented. District math curriculum guides were used as were student expectation reports to parents developed the previous year. Members then collected examples of key skills for conversion to the TIPS math adapted format. Lessons were written for each identified key skill using materials provided by staff.

Because district curriculum guides were current and in use, subject matter of lessons followed a sequential developmental hierarchy for the following skills:

ADDITION.

Sums of 0 - 100, vertical and horizontal.

Sums of two addends up to 100, no renaming.

Sums of any two digit addends.

Sums of three two digit addends less than 100, no renaming.

Sums of any two three digit numbers.

Sums of any four digit numbers with up to five addends.

Sums of any two five digit numbers.

SUBTRACTION.

Differences of any two numbers from 0 - 18, vertical and horizontal.

Differences of two numbers from 0 - 99, no renaming.

Differences of two numbers 0 - 99, renaming.

Differences of two numbers to 99, renaming with 0.

Differences of any two numbers 0 - 999, with and without renaming.

Differences of any two four digit numbers, with and without renaming.

Differences of any two five digit numbers, with and without renaming.

MULTIPLICATION.

Products 0 - 100.

Product of any 1 digit x any two digit.

Products of two and three digit multipliers.

DIVISION.

Division facts with divisors 1 - 9.

Division of numbers less than 1000 by divisors less than 10.

Division of any three digit number by any two digit number.

FRACTIONS.

Recognize 1/2 and 1/4.

Read and write 1/2, 1/4, 2/4, 3/4, 1/8, 5/6, 3/5, 1/3.

Compare fractions through denominations of 8.

Compare like and unlike fractions.

Add and subtract like fractions.

Write equivalent fractions.

Write fractions in lowest terms.

Identify improper or mixed fractions.

Add or subtract unlike fractions denominations 2 - 12.

MONEY.

Recognize penny, nickel, dime, quarter.

Count money to $1.00.

Count money amounts with bills and coins.

TIME.

Telling time to the hour.

Telling time to the half hour.

Telling time to the five minute interval.

Telling time to the one minute interval.

OTHER.

Rounding 2 place number to the nearest 10.

Rounding a 3 place number to the nearest 100.

Rounding a 4 place number to the nearest 1000.

Counting to 100 by 1's.

Counting to 100 by 2's.

Counting to 100 by 5's.

Counting to 100 by 10's.

WHAT THE DATA SHOWS

1. As teacher experience level increased, so did the number of lessons requested and the number sent home. Teachers with more than 15 years experience sent twice as many lessons as did those with under 15 years.

2. As the age of the student increased, so did the rate of response return.

Percentages of parent response notes by class were as follows:

Grade 1 79%

Grade 2 74%

Grade 3 94%

Grade 4 85.7%

Grade 5 95%

Grade 6 96%

3. There was no significant difference between math achievement test scores of the pilot group and the control group. Second and fourth grade pilot classes had more students scoring in the top three stanines than the control group. In grade six, the pilot group and one control group both had an equal percentage of students in the top three stanines. In grades 1, 3, and 5, the pilot students scored in the top 3 stanines with less frequency than the control group.

4. Parent response to the TIPS evaluation questionnaire clearly showed that of those parents responding:

(1) 93.2% felt that the project helped them to better understand math expectations of the district.

(2) 100% understood the "Look at This" section of the lesson.

(3) 98.3% had no trouble in completing the expected work with their children.

(4) 89.8% hoped that the program would continue for another year. Some suggested that the program be used district-wide and some suggested that another subject be added. 10.2% did not want the program to continue. Negative comments included "My child doesn't need it," and "It's a waste of money."

(5) All piloting teachers expressed the desire to continue using the lessons and to expand its use to the next full year.

COORDINATOR OBSERVATIONS

1. Teacher choice of lesson content and teacher control of content was the key factor in staff acceptance of this project.

2. Coordinator direction of lesson preparation and distribution added no time burden to teacher workload. It gave teachers a way to involve parents in the evaluation of student mastery of teacher identified key math concepts with a minimum effort requirement.

3. Excellent components of program included parent training, lesson preparation, lesson distribution, committee functioning, and administrative and board support.

4. Components needing improvement were lengthening of the project timeline to provide at least 1 year for lesson preparation and establishment of more precise evaluation criteria at the beginning of the project.

5. The TIPS math project is presently in full use in every 1-4 classroom in the entire district. Full use in grades 5 and 6 may take place next year.